H.A.A.U.G.

HOUSTON AREA APPLE USERS GROUP

THE APPLE BARREL

*** SINGLE COPY PRICE $1.50 ***

VOLUME 4 NO. 4 AUG. 1981

President, Bruce Barber Vice President, Mike Kramer

Published by: A & L ENTERPRISES

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<<< CLUB NOTES >>>

The HOUSTON AREA APPLE USERS GROUP is an Apple II user club, not affiliated with Apple, Inc., or with any retail computer store. HAAUG is a member of the International Apple Core and supports its purposes and publications. General membership meetings are held on the second Thursday of each month in the rear chapel of Memorial Lutheran Church, 5800 Westheimer, right by the Jungman Branch Library and west of Chimney Rock. They start at 6:30 p.m. An additional meeting for access to the club software library, problem-solving, and various lectures is held the last Saturday of each month at the University of Texas School of Public Health (in the Medical Center), 6905 Bertner off Holcomb, across from Medical Center entrance #7. We meet on the main floor, first room on the left. Parking is adjacent to the building. These Saturday meetings begin at 2:00 p.m. Bring your Apple if you like!

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MEMBERSHIP INFORMATION

Dues are $18.00 per 12-month period for regular memberships, $6.00 for students through high school and where no adult member of the family is an Apple user. Please make checks payable to "Houston Area Apple Users Group," and mail to Lee E. Gilbreth, Membership Chair, 3609 Glenmeadow, Rosenberg, TX 77471. This includes a subscription to APPLE BARREL, which is published nine times a year. Newsletter exchanges with similar clubs are invited.

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SPECIAL INTEREST GROUPS

Members who share a common interest are encouraged to form Special Interest Groups to more fully explore their fields. Meetings may be arranged by common consent of the group and will ordinarily have one member who serves to coordinate or convene the meetings. If you would like to start a group around any given interest, please contact one of the club officers. If you would like to be in touch with others who share one of the following interests with you, please phone the coordinator.

BUSINESS GROUP MEETING

The Business Applications Special Interest Group plans to meet at EBASCO Services 3731 Brairpark on Thursday, 24 September at 7:00 pm to continue their review and discussions of Accounting packages available on the market today. We will be looking at The Comptroler by Apple and any other accounting programs people might want to bring to the meeting.

BASICALLY SPEAKING
By
Mike Kramer

PRINTER ACTIVATION TECHNIQUES

Those of you who are writing programs which output to a printer have faced the question of how to specify the printer slot. Too often, the easiest approach is used, and slot #1 is hardcoded into the program. Many commercial programs and even good old File Cabinet force you to use their chosen slot. It really isn't hard to let the user have his way. In fact, it is relatively easy to let him plug the card where he wants it and have the program figure out where it is automatically.

The following example illustrates a simple approach for permitting user selection of the printer slot:

```
100 PRINT : INPUT "PRINTER SLOT?
     ";SL$:SL = VAL (SL$): IF S
    L < 1 OR SL > 7 OR SL = 6 GO
    TO 110
```

Actually this isn't the simplest approach because it checks for valid slot numbers. Slot 6 is excluded since this usually has a disk controller in it. The simplest approach would be to do no validity checking.

Whenever you wish to activate the printer, a subroutine similar to the following would be called.

```
110 PRINT D$;"PR#";SL
120 PRINT CHR$ (9);"80N";
130 RETURN
```

As usual, "D$" is a Control D which is required if you are using DOS. Line 120 is the Epson command which deactivates the screen and permits printing 80 characters per line.

A routine similar to the one below would be called to deactivate the printer.

```
150 PRINT CHR$ (9);"I";
160 PRINT D$;"PR#0"
170 RETURN
```

The second technique is similar to the one above but permits use of a RAM based driver. A recent issue of CALL -A.P.P.L.E suggested that this would likely become the standard for programs published in that magazine. Actually, few of us use RAM based I/O drivers, so it likely has little practical value.

```
110 PRINT "ENTER PRINTER SLOT OR

     CALL": INPUT PR: RETURN
120 IF NOT PR THEN RETURN
130 IF PR < 8 THEN PRINT D$"PR#
    ";PR: RETURN
140 CALL PR: RETURN
```

Line 120 checks for entry of a "0". The next line activates the printer if the slot number is less than 8. If the value entered is greater than 7 it is assumed that a RAM driver is being used, so Line 140 calls an assembly language driver stored beginning at memory location "PR". CONTINUED NEXT PAGE

The third example is a little more involved and has the disadvantage that a program using it can only be used with a specific interface card. Its advantage is that it automatically determines which slot a particular interface card is in. This is done by "PEEKING" at the I/O ROM driver program on the interface card in each slot and seeing if the first four bytes match the driver of the printer interface to be used. If no match is found, it then asks for the printer slot number. The I/O ROM driver begins at memory location Cn00 Hexadecimal, where "n" is the slot number. The the values compared to the locations PEEKed are for the Epson parallel interface.

```
110 FOR SL = 1 TO 7
120 SM = SL * 256 + 49182
130 IF  PEEK (SM) = 24 AND  PEEK
    (SM + 1) = 176 AND  PEEK (SM
     + 2) = 56 AND  PEEK (SM + 3
    ) = 72 THEN SL$ =  STR$ (SL)
    : GOTO 170
140 NEXT SL
150 PRINT : INPUT "PRINTER SLOT?
     ";SL$:SL = VAL (SL$): IF S
    L < 1 OR SL > 7 GOTO 150
160 GOTO 180
170 PRINT "EPSON IS IN SLOT ";SL
    $
180 REM CONTINUE
```

If you have multiple interfaces, you could modify the routine above to loop through the slots first looking for the first interface. If it was found, the user would be asked if he wanted to use that one. If the answer was "NO", the routine could loop again and look for the second card, etc.

You may be wondering how you would ever find out the values of the first four bytes on a particular interface card. One way is to enter the monitor by typing "CALL -151" followed by a "RETURN". Then type "C100" if the interface is in Slot 1. This will cause the value stored in location C100 to be displayed in hexadecimal. Pressing "RETURN" causes the values of the next eight bytes to be displayed. All you have to do is convert bytes C100 through C103 to decimal to use in the slot finder routine. An easier way to find out the decimal values of the first four bytes on each interface is to key in the short program below.

```
110 HOME : VTAB 4
120 PRINT  TAB( 5)">> I/O ROM BY
    TE VALUES <<": PRINT
130 PRINT  TAB( 11)"BYTE 1 BYTE
    2 BYTE 3 BYTE 4": PRINT
140 FOR SL = 1 TO 7
150 SM = SL * 256 + 49152
160 PRINT "SLOT ";SL;":"; TAB( 1
    3) PEEK (SM); TAB( 20) PEEK
    (SM + 1); TAB( 27) PEEK (SM +
    2); TAB( 34) PEEK (SM + 3): PRINT
170 NEXT SL
180 END
```

No attempt has been made to discuss the commands used to activate the various features of the different interfaces and printers. Since there is likely a great deal of interest in this topic, you are invited to submit a paragraph or two along with example code for inclusion in a future article.

----------NOTES FROM YOUR SOFTWARE EVALUATION COMMITTEE ----------

The H.A.A.U.G. Software Library Evaluation Group reviews all software which is made available to the club. The Evaluation group then writes documentation for each program which is appropriate for inclusion in the library and passes the program to the maintenace committee. The Evaluation committee is the final arbiter of which software is to be consigned to the vast swamp of undocumented, un-debugged, unsorted and untested software in the "OLD LIBRARY" and which software is to reside in the well documented, vermin (bug) free "NEW LIBRARY". The folks who must make the decissions about whether to include a program in the library or to consign it to the hinterlands have a variety of interests and abilities. In general, we are able to find people capable of (intelligently) evaluating most of the software we receive. We have, however, a lack of evaluators in the following areas:

.....Education
.....Machine Language Programming
.....Disk Utilities
.....Hires Graphics Utilities/Games

Although we have at least one person for each of the above areas we don't feel it is fair or practical to present a constant diet of one type of program to an evaluator. Boredom would take hold and cause irreversable brain trauma and loss of an evaluator.

THE EVALUATION COMMITTEE IS THEREFORE LOOKING FOR A FEW GOOD MEN
...PERSONS...

The duties will be to try out new programs (never seen by Houstonians before), weed out the garbage and copyrighted programs, write short (less than 50 words) evaluations and recommend appropriate programs for inclusion into the "NEW LIBRARY". The evaluator's job is to evaluate programs...not to fix them up (unless you want to). No experience is required unless you wish to take on specialty areas such as noted above. WE HAVE LOTS OF LITTLE, UNCOMPLICATED PROGRAMS TO EVALUATE and you will not be the only evaluator of a program so don't let inexperience get in your way. The time committment will be in the area of about 2 evenings/month (less if you request it). In general we can tell something about the difficulty of a program prior to giving it to you so we will be able to give you as much or as little work as you want.

CONTINUED NEXT PAGE

Whether you need computer paper, floppy discs, printer ribbons, self-stick labels, or any other supplies for your business computer or word processor, you can get immediate action from Moore. Our van can deliver your supplies the same day you order them, including orders from our quick print service.

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We have recently placed 3 EAMON ADVENTURE GAMES into the ever-ready hands of the maintenance committee and we currently have about 220 programs being evaluated. in addition we have about 400 programs which have not yet been given out to the evaluators. Our turn-around time, from the time a disk is received to the time it is pased to the maintenance committee, is about three months, currently. This is because at the beginning of March we had only 4 people evaluating disks. We currently have about 15 so the performance should improve dramatically in the near future. We are aiming for a turn-around of about six weeks.

IT IS TO YOUR BENEFIT TO HELP THE CLUB EVALUATE DISKS!!!!!

For example.... many educators would say that a program which would allow a child to practice elementary arithmetic would be worth including in the library. Many of the folks evaluating programs would consider such a simplistic (???) program not to be worthwhile and would not recommend it. If you want programs in an area of interest to you to be included in the library you must help evaluate these programs, otherwise the duty will fall upon people who may not have sufficient expertise in the area and these programs may be lost in the swamp "OLD LIBRARY".

Contact Marty Edelstein at any Saturday or Thursday meeting it you want to help.

* 1 YEAR AGO *

The Apple /// is out!
VOL 3 ISS 5 June-July 1980

Every self-respecting Apple-oriented newsletter is obliged to report.... After all the noise has died, your Apple IIs will be supported for a promised 5 years by Apple, Inc., not to mention the vast second source industry.... To think the Apple /// will compete with your Apple II is like fearing the Corvette would crowd ou the Nova! ... And if you want to soup up the old Nova, turbocharge it with one of those new Z-80 boards. They say it'll really scream! (Ed Seeger)

* 2 YEARS AGO *

AUTO-BOOT BOARD, Theory of Operation
VOL 2 ISS 4 JULY 1979

When a reset occurs on the Apple, it executes an indirect jump based on the address at $FFFC. This address, which is located in the $F800 or Monitor ROM, points to routines which initialize the Apple for normal video and keyboard I/O. Among the functions are: Set Text Mode, Set Lores, Set Page1, Set keyboard as input device, Set video as output device.... The Auto-boot board works be effectively changing the byte which normally contains a zero to reflect the slot of our choice. This is implemented by disabling the ROM when the byte containing the zero is accessed, and replacing it with the byte which has been selected by on-board switches on the data bus.... Extensions of this project could easily setup terminal I/O after booting DOS or could jump into a dedicated operating system. (John Brisbin)

* 3 YEARS AGO *

Applecity, USA
VOL 1 ISS 3 JULY 1978

My last contact with Apple was less than satisfying. I called (as usual) for Phil Roybal, but he has a screen catching all of his calls. The fellow is pleasant enough, just doesn't have any info to dispense. I guess I was just hacked off from the treatment I had just gotten from the personnel in Apple's software documentation group and I let my displeasure dominate the call (which was my fourth for the day) and Phil did call back and smooth my feathers a bit later on in the day. I hope that Apple catches on that although they must be fielding hundreds of calls per week, that every bit of new, tips, etc. that they feed to local newsletter editors probably saves them a few calls.... So, when the documentation troops told me that they didn't plan to furnish any details on the workings of the DOS I got a little PO'd.... The Applesoft ROM cards are in! ... (Bob Collins)

S-C ASSEMBLER II UPGRADE

Those of you who have the S-C ASSEMBLER II Version 3.2 may be unaware of the new Version 4.0. The following lists the new features which make this popular assembler even easier to use:

EDITING FEATURES

* Runs on Apple II with or without autostart ROM and on Apple II+
* Ability to append source from disk or tape
* Automatic line numbering
* Parameterized RENUMBER
* Memory usage display
* Escape IJKM cursor move with or without autostart ROM
* Tabs set for 6-character labels
* Star-dash line automatic generation
* No conflict with D.C.Hayes

NEW ASSEMBLY FEATURES

* Multiple source files, using .IN directive
* Object code directly to disk file, using .TF directive
* Listing on and off using .LIST OFF and .LIST ON
* .PG to issue form feeds during listing
* .BS to reserve a block of storage
* Increased speed, up to 6000 lines per minute
* Labels up to 32 characters
* Labels may include period
* Local labels
* Bad line listed for correction after assembly error
* Value of .EQ and address of .BS printed on listing
* Assembler and DOS memory protected during assembly
* ASCII literals in address expressions
* Symbol table printed in alphabetical order

S-C Assembler II Version 4.0 can be purchased for $55. If you already own Version 3.2, the upgrade kit, consisting of a manual summarizing the new features and a DOS 3.2 disk, can be obtained by sending $20 plus the serial number from your original disk to S-C Software, P.O.Box 5537, Richardson, TX, 75080. The disk can be converted to DOS 3.3 with no apparent ill effects.

While you're sending your hard-earned cash to S-C, you may want to consider subscribing to Bob Sander-Cederlof's (so where did you think S-C came from?) Apple Assembly Line monthly assembly language newsletter. It's naturally slanted toward assembly language programs written using his assembler and contains tutorials, utilities, and enhancements to the S-C Assembler itself. Cost for Apple Assembly Line is $12 a year, with back issues from October 1980 available for $1 each. A quarterly disk containing the programs is also available for $15, if you don't want to type them in. Recent issues have included ads for two different two-pass disassemblers which generate source code text files for the S-C Assembler with such features as automatic label generation, equate definitions, automatic line numbering and tabbing, address sorting, and source segmentation. Cost for either of these programs is $25.

I was going through my copies of BYTE and KILOBAUD to see what articles concerning the APPLE or 6502 were in there. Here is the list that was made:

BYTE

3/80	242	6502 pointer decrementing
	188	julian conversion
	156	Hydrocarbon Molecule construction
	68	Gear Ratio Calculation for Bicycle Derailleurs
	6	Hunting the Computerized Eclipse (Camera Interface and Control)
2/80	8	Apple Pascal Update
	167	APPLE Education Center Info
1/80	95	Using APPLE PASCAL and APPLE driven terminal
	118	6502 indirect addressing subroutines
12/79	250	typing trainer (general BASIC)
11/79	63	HIRES shape table conversion
9/79	58	Similarity Comparison for Strings
	70	low speed A-D converter (and plotter)
8/79		(real time clock...general)
7/79		APPLE Kaleidescope
6/79	60	More Colors for your APPLE & High Order Bit Hardware mod.
5/79	50	OSI SUPERBOARD computer (6502)
4/79	20	APPLE II Serial Interface using 8251 chip
2/79		APPLE and 8 Queens puzzle
	154	APPLE Integer Basic unlimited precision division routine

KILOBAUD

3/80	192	Comparison of microprocessor commands
	184	Stacking Apple programs in memory
	172	Apple & a Kid
	66	Apple Multiple Page Graphics
	50	Micromodern II
2/80	186	KIM (6502) Selectric Interface
	166	Apple kids picture drawing routine
	132	Apple's Hidden Floating Point Routine
	70	Speechlab & Apple Clock Review
1/80	110	Sources for Apple Accessories
	94	SYM-1 (6502)
12/79	46	Chess I for Apple II
	34	Apple Lowercase Part 2
11/79	70	Apple & Stock Market
	30	Lowercase for Apple II
10/79	132	APPLE DOC - programming Aid
9/79	104	HIRES
8/79	90	APPLE Ciphers (discussion of APPLE computer for medical program)
7/79	124	Description of 6502 and Family
6/79	54	TAB command usage
	84	TVI
	97	6502 sneaky interrupt
5/79	34	6502 Frequency Counter Timer
4/79	48	List of APPLE Software Sources
	106	STARSHIP attack game for APPLE
3/79	138	APPLE II and TELPAR Printer
2/79	99	APPLE talk routine

FRUSTRATIONS OF AN AMATEUR APPLE USER

By Ruth Dill

My troubles all began when we got a TRS-80 at the office for programs we didn't want to put into the computer system. What a fascinating thing! And each piece of equipment added to it only increased my interest. By the time I got my annual bonus in January, I was hooked. I just had to have one of those things.

Knowing absolutely nothing about computers, I began researching the market to find out what kind of computer I should buy. My son, Jeff, an electronics nut, insisted the only kind to get was the Apple. I visited Radio Shack and examined the TRS-80. I checked out Texas Instruments. I looked at Apple. "We're having a sale now," the clerk told me. "If you buy the Apple, we'll give you a $300 monitor free." That did it! I could resist no longer.

I took it home, eagerly unpacked it, connected a tape recorder and the paddles and sat down to run a computer. By next week I'd have my husband's business programmed, I'd have the farm operations on it, the household operations--everything.

I began working my way through the Tutorial. Wow! This is fun! But hold on--something's wrong. This program doesn't work. I put it in again. I study the Tutorial looking for an error I might have made. Nothing. It still doesn't run. A call to CompuShop informs me that the program in the book has an error in it. I correct the error. Ah! It works!

I play a game with the paddles. One of the paddles doesn't work. A trip to CompuShop gets me a new set of paddles. One of mine had a bad connector. Hurray! Now it works.

I work my way through the Tutorial and then through the Programming Manual. I don't understand all of this stuff. A terrible realization begins to dawn on me. I'm not going to be programming next week or even next month. I've got to get some help. Ah ha! the University of Houston Sundry School is offering a course called "Introduction to Small Computers." The instructor is Bruce Barber. It says here that he's president of the Houston Area Apple Users Group. If I take this course, maybe I can find out where to get more information. I did! I learned about HAAUG!

I took a programming course at CompuShop. I bought mountains of books, most of which I don't understand. My husband keeps wanting to know about these programs I'm going to do. I avoid discussing it. One thing is sure--I have to learn to use this thing. It cost too much for me to do otherwise. And, as if I hadn't put enough into it already, I just keep adding to my equipment. Every night finds me "playing" with it until after midnight. I'm addicted to it now. I know now that eventually, with help, I'll become reasonably proficient, but I'm more patient now. I know it won't be tomorrow.

SOFTWARE REVIEW

Program - PFS: Personal Filing System
Distributor - Software Publishing Corporation
Purpose - Personal Information Storage/Retrieval
Hardware - 48K Apple II or II+, disk, DOS 3.3, and printer (optional)
Language - Written in Pascal, but runnable from BASIC
Price - $95 plus $15 for optional back-up disk

Software Publishing Company, a relative newcomer to the market, has recently released their answer to the common problem of keeping up with file folders full of information. Their Personal Filing System, PFS for short, is flexible, screen-oriented, and does not restrict the user to a rigid, predefined file structure. Instead, the user creates a blank "form" which he later fills out with the information to be stored. A maximum of 1000 forms or screen images can be stored on a single disk.

When PFS is booted a menu of six functions is displayed. These are:

(1) CREATE FILE
(2) ADD FORM
(3) COPY FILE
(4) SEARCH
(5) PRINT
(6) REMOVE

When defining a new file, it is necessary to pick a file name with eight or fewer characters. The first thing that happens is initialization of your disk, so suitable warnings are given. As soon as the initialization is complete, the screen goes blank, except for the file name at the bottom. At this point, the user moves the cursor around the screen, defining item names wherever he desires. These names will later appear on the screen in inverse video as protected fields defining where data is to be entered when individual records (PFS calls them forms) are keyed in. When form definition is complete, the form is saved to the disk and the menu reappears.

The next step is to enter forms, so function 2 is selected. The previously defined form is now displayed on the screen with the cursor in the first character position of the first data item. When the desired data has been entered, the right arrow key is pressed, causing the cursor to jump to the next data field. The remaining data is entered in a similar manner. If necessary, the cursor can be moved anywhere on the screen to correct or enter data. If desired, an additional blank page can be called for on which anything can be entered. This feature permits entry of totally free-format input, but does not force other records to use extra pages. Use of an extra page would presumably reduce the maximum available forms by one. When all data has been entered, <CTRL C> is pressed, the form is written to the disk, and a blank form appears. When all forms have been entered, the <ESC> key is used to return to the menu. A printout of a typical form follows this write-up.

The third capability provided permits copying of data files for back-up. Unfortunately, this only works with two drives, so I was unable to test it. According to the documentation, PFS permits copying of the total disk for back-up or copying of just the blank form to permit entry of additional forms, should the first disk become full.

CONTINUED NEXT PAGE

The search function provides a powerful, fast, search capability to permit rapid retrieval of records containing information of interest. When search is activated, a blank form is displayed for the user to specify his search spec. The search spec can contain one or more items to be matched. It is possible to do a full item match, where a specific name is desired. A partial item match can be specified, permitting a search for everyone with the same last name, for example. A numeric item match is also provided, which looks only at numbers to find a match, ignoring any imbedded non-numeric characters. It is possible to search for all forms containing a numeric value less than a specified number, greater than, or equal to (but not more than one of these at a time). While searching for forms, it is possible to change, print, or just review the data on the form.

The print function combines the search capability with the ability to specify what is to be printed. There is a limitation that data items on the form must be printed in the same order that they appear on the form so care must be used when the form is defined. It is not required that all items be printed, nor do search spec items have to be printed. After the retrieval spec is defined, a blank form is displayed for use in defining a print spec. Items to be printed are flagged with either an "X" or a "+". The "X" is used to indicate that a line feed is to be issued after the item is printed. The "+" is used to specify that the next item is to be printed on the same line. The print spec is completed by specifying whether heading names should be printed along with the data and the number of lines per page.

Finally, capability is provided to delete unwanted forms, should the information contained become obsolete. A blank form is once again provided for entry of a retrieve spec to indicate which forms are to be deleted. Care should be used in specifying the retrieve spec, since deleted forms cannot be recovered.

That summarizes the functions provided by PFS. Although it takes a while to become comfortable with the somewhat non-standardkeyboard commands, PFS is very easy to learn. Since receiving a review copy, we have put our Xmas/address/birthday/etc. list on PFS. We are now able to print a list of everyone on the Kramer side of the family with a birthday in October who live in St. Louis. We can use the file for generating mailing labels for next year's Xmas cards, although some may think that rather impersonal. I also use PFS as a retrieval system for computer magazine articles of interest. Although it took a while to set up the file, it really is nice to ask for any references to Pascal and have the title of the available articles and the names and dates of the magazines listed out on the printer.

PFS is very professionally done, due in great part to the developer's years of experience with a major minicomputer manufacturer. Documentation and packaging are first class and the software appears to be free of bugs. Once learned, the program is very easy to use. On the negative side, PFS does not sort, support tabbing, or permit the user access to the data files from his own programs. PFS does do what it is advertised to do, however, which is to provide an easy-to-use filing system with rapid data entry and retrieval.

Mike Kramer

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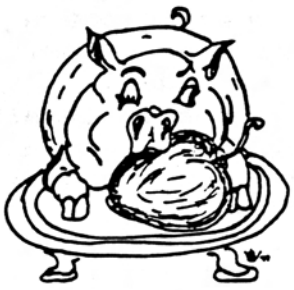

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